

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appellant: Wayne Edward Beimesch

Serial No.: 10/724,564

Filed: November 26, 2003

For: METHOD FOR MEASURING VOLATILE
ORGANIC COMPOUNDS AND A KIT
FOR SAME

Confirmation No.: 9670

Examiner: David A. Rogers

Group Art Unit: 2856

Attorney Docket No.: 414130

November 24, 2008

Mail Stop: Appeal Brief-Patents
Commissioner For Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REPLY BRIEF

Dear Sir:

This Reply Brief is being submitted in response to the Examiner's Answer mailed on September 23, 2008, in accordance with 37 C.F.R. §41.41. Appellant incorporates the contents of the Appeal Brief filed July 1, 2008 into this Reply Brief.

(1) **Related appeals and interferences.**

The '564 application is a divisional application of the U.S. Patent Application 09/806,274, which is currently under appeal before the Board of Patent Appeals and Interferences. The '274 application was filed on March 27, 2001 and has been twice appealed to the Board. In the first appeal, the Board reversed the rejections of the claims in the '274 application on March 19, 2004. In the second appeal, the Board returned the application to the Examiner on June 12, 2006 because the Examiner's Answer was not in compliance with the MPEP. The Board decision of March 19, 2004 and the Board order rendered by the Board dated June 12, 2006 are attached in the Appendix of this Reply Brief.

In the Examiner's Answer dated September 23, 2008, the Examiner stated that "[a]fter the Office reopened prosecution of the 09/806,274 application the appellant filed this application to pursue the apparatus claims." See page 2, lines 7-9. This statement is not accurate because the '564 application was filed on November 26, 2003, whereas the Board decision in the '274 application was rendered on March 19, 2004. Thus, the filing of the '564 application occurred before the Office reopened prosecution of the 09/806,274 application.

No other pending appeals or interferences are currently known to Appellant that will directly affect, be directly affected by, or have a bearing on the decision to be rendered by the Board of Patent Appeals and Interferences in the instant appeal.

(2) **Status of claims**

Claims 23-34 are pending and were rejected in the last Office Action dated February 14, 2008 and are at issue in this appeal. Claims 1-22 and 35-36 have been previously cancelled. Claims 23-34 stand rejected as follows:

(a) Claims 23-34 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 4,930,906 to Hemphill. Appellant respectfully traverses these rejections and requests withdrawal of the same.

(3) **Grounds for rejections to be reviewed on appeal**

Whether Claims 23-34 are obvious under 35 U.S.C. § 103(a) over U.S. Patent 4,930,906 to Hemphill.

(4) Arguments

(a) The Claim limitation that the materials for making the bag do not release significant amount of VOCs (Claim 23).

The Examiner maintains that the materials used to make Hemphill's grease disposal bag do not release any volatile organic compounds (VOCs). The Examiner asserts that because Appellant's VOC measuring bag is made of aluminum foil and polyethylene, and because Appellant teaches that the materials used to construct the claimed bag should not release significant amount of VOCs, the Hemphill bag also does not release VOCs.

With all due respect to the Examiner, Appellant disagrees with the Examiner's line of reasoning. First, Appellant's application specifically teaches that caution should be taken in constructing the claimed bag to avoid any release of VOCs into the internal space of the claimed bag. By contrast, Hemphill did not contemplate and thus did not specify that the materials used to construct the bag should not release VOCs.

Second, although Appellant agrees with the Examiner that pure aluminum foil typically does not release significant amount of VOCs, this notion does not necessarily mean that the aluminum foil material used in Hemphill also does not release significant amount of VOCs. There is no teaching or suggestion in Hemphill that caution should be taken to avoid using materials that release significant amount of VOCs. There is also no evidence that the aluminum foil as used in Hemphill is pure aluminum foil, without any coating or residual chemicals left over from the process of making the foil.

Third, the Examiner has not provided any evidence to support the position that the polyethylene material in Hemphill's bag does not release significant amount of VOCs. As explained above, there is no teaching or suggestion in Hemphill that caution should be taken to avoid using materials that release significant amount of VOCs. Nor is there any indication in Hemphill that the polyethylene material does not release significant amount of VOCs. As Appellant has explained in the Appeal Brief, the same chemical material can be made by different chemical processes. *See*

page 10 the Appeal Brief filed July 1, 2008. Even if the materials are prepared by the same process, difference in starting materials, post-processing treatment, etc, can result in different physical and/or chemical characteristics of the materials. *Id.*

Fourth, the Examiner maintains that the facts that aluminum foil or polyethylene materials can be made by variable processes are undocumented and unproven. *See* lines 3-6, page 10, and lines 11-18, page 11 of the Examiner's Answer dated September 23, 2008. Appellant respectfully disagrees. On the contrary, it is common knowledge that materials such as aluminum foil or polyethylene can be prepared by different processes.

Lastly, the Examiner improperly shifts the burden to Appellant for showing that the polyethylene material of Hemphill release more than significant amount of VOCs. To reach a proper determination under 35 U.S.C. §103, the examiner must step backward in time and into the shoes worn by the hypothetical "person of ordinary skill in the art" when the invention was unknown and just before it was made. MPEP §2142. In view of all factual information, the examiner must then make a determination whether the claimed invention "as a whole" would have been obvious at that time to that person without resorting to hindsight. *Id.*

Here, the Examiner fails to carry the initial burden of showing that a person of ordinary skill in the art would find it obvious to construct the bag as claimed using materials that do not release VOCs in light of the grease disposal bag taught by Hemphill. Rather, the Examiner improperly shifts the burden by requesting Appellant to show that the Hemphill bag releases VOCs into its internal space. Appellant respectfully submits that because it is the Examiner who should first establish that at the time of Appellant invention, it was obvious to make a bag identical in structure to Appellant's claimed bag and to ensure that the materials used to make the bag do not release significant amount of VOCs, it is the Examiner's burden to first show that the materials used to make the Hemphill bag do not release VOCs into the bag's internal space.

Appellant teaches a bag specifically constructed to measure VOCs released by various substances. In the instant application, Appellant specifically emphasizes and claims that the materials used to construct the bag should not themselves

contribute VOCs to the headspace of the bag. Page 3, line 30 to page 4 line 1 of the original Specification. The issue of whether the materials used to construct a grease disposal bag release VOCs to the internal space of the bag was not a concern for Hemphill because the bag was to be used to hold waste grease for disposal. Thus, one of ordinary skill in the art would not know from reading Hemphill that efforts should be taken to ensure that the materials used to make the bag do not release significant amount of VOCs.

The Examiner also asserts that “there is no discussion in the written description that discusses the appellant’s preferred polyethylene materials to be from any specific manufacturing technique.” Lines 16-18, page 11 of the Examiner’s Answer. Appellant respectfully disagrees. Appellant’s invention discloses that only materials that do not contribute significant amount of VOCs to the internal space can be used to make the claimed bag. It is within the skill of one of ordinary skill in the art to select those materials that meet these requirements. An inventor is not required to disclose what is well known in the art. MPEP §2163.

Taken together, without clear support from the references or from the common knowledge available to one of ordinary skill in the art, it is speculative to state that the Hemphill bag is made of materials that do not release significant amount of VOCs.

(b) The Claim limitation that the bag has a wall consisting of two layers (Claim 25).

The Examiner recognizes that Appellant’s bag as recited in Claim 25 only has two layers while the Hemphill bag has three layers. However, the Examiner maintains that it would have been obvious to remove the paper layer when its function is no longer desired. The Examiner merely speculates that if the grease is cold, then the paper layer of the Hemphill bag would not be required. This line of reasoning, however, is purely speculative because it does not establish that at the time of Appellant’s invention, “there were design incentives or market forces which would have prompted adaptation of the known device,” namely, the Hemphill bag.

Examination Guidelines for Determining Obviousness Under 35 U.S.C. 103 in View of the Supreme Court Decision in KSR International Co. v. Teleflex Inc., Federal

Register, Vol. 72, No. 195, 57526-35 (October 10, 2007) (the “Guidelines” hereinafter) emphasis added.

Indeed, there is no suggestion in the instant application, the prior art or common knowledge that the function of protecting a user from being burned is no longer desired for a bag to be used to hold substances with temperature as high as 100 C. According to the instant application, samples from a chemical process may possess a high temperature such that burning remains an issue for users handling the samples. *See e.g.*, lines 6-8, page 5 of the Specification, stating that “a typical mean exit (temperature) is from about 5 C to about 100 C.” Appellant found out unexpectedly that the dual layers made of aluminum and polymer were sufficient in protecting a user from burning. Under MPEP 2144.04 IIB, omission of an element and retention of its function is an indicia of unobviousness.

(c) Hemphill’s bag is non-analogous art.

The Examiner maintains that Hemphill’s grease disposal bag is analogous art because the Hemphill bag and Appellant’s bag are formed of similar materials and are both collapsible, both have a headspace, both are sealable, and both have instructions. Lines 3-5, page 14 of Examiner’s Answer dated September 23, 2008. The Examiner thus concludes that Hemphill is analogous art regardless of “whether or not the appellant’s chemical engineers would ever look to the food disposal art for a solution to their problem.” *Id.*, Lines 7-8, page 14. The Examiner further states that “any person having ordinary skill in the art, including chemical engineers, would most assuredly look at Hemphill’s bag and conclude that it is indeed pertinent to the claimed subject matter.” *Id.*, Lines 8-10, page 14. Appellant respectfully disagrees.

The standard employed by the Examiner, namely, whether a person of ordinary skill would look at the cited art and conclude that it is pertinent to the claimed subject matter, is not the correct standard for determining whether a reference is analogous art because it necessarily invokes hindsight. In discussing the standard for determining whether a reference is analogous art, the MPEP states that “a reference in a field different from that of applicant’s endeavor may be reasonably pertinent if it is one which, because of the matter with which it deals, logically would

have commended itself to an inventor's attention in considering his or her invention as a whole." MPEP 2141.01(a)-I. Thus, the correct standard for assessing a prior reference is whether the reference is so reasonably pertinent to the invention that it would have logically commended itself to an inventor's attention when the inventor is considering his or her invention as a whole.

Here, the correct analysis should be focused on whether the Hemphill grease disposal bag is so reasonably pertinent to Appellant's bag designed to measure VOCs in a chemical process that it would have logically commended itself to a chemical engineer's attention when the engineer is trying to solve the problem for measuring the release of VOCs by chemicals being processed in a chemical factory.

First, Appellant agrees with Examiner that although the grease disposal field of Hemphill and Appellant's field of chemical processing are classified under different categories, patent office classification is only one of the factors in determining whether a reference is analogous art.

Second, although Hemphill bag and Appellant's claimed bag both are constructed with more than one layers, the materials for constructing Appellant's claimed bag can not contribute VOCs to the inside of the bag, which feature is missing in the Hemphill patent.

Third, the function of the Hemphill bag is for holding hot grease for disposal, whereas Appellant's claimed bag is designed to hold samples taken from a chemical process system and to be incubated under the mean exit temperature of the process system so that the gas contained within the headspace can be analyzed at the end of the incubation. The Examiner reasoned that both the Hemphill bag and Appellant's bag serve the same function as a storage bag. However, as evidenced by the instant application and explained above, Appellant's bag serves a function much more than simply as a means for storage. The Examiner cited *In re Ellis* in support of his position. Line 21, page 13 to line 2 page 14 of Examiner's Answer dated September 23, 2008. However, the gratings disclosed in the reference and the claimed pedestrian floor gratings have similar structure and functions, which is in contrast to the present case where the structure and function of the Hemphill bag are substantially different from those of Appellant's claimed bag.

Lastly, because the structure and function of the cited bag are significantly different from those of Appellant's claimed bag, a person of ordinary skill in the field of chemical engineering, facing the problem of monitoring VOC release by chemicals being processed in a chemical plant, would not have turned to the grease disposal field to see the obvious benefit of modifying a grease disposal bag. Taken together, the Hemphill reference is non-analogous art when used to reject Appellant's claimed kit for measuring VOCs in a chemical process system.

(d) Rationales to support an obviousness rejection.

Appellant agrees with the Examiner that an obviousness rejection need not be based on any rigid pre-set rationales. However, as the Supreme Court makes clear in KSR, "rejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *KSR International Co. v. Teleflex Inc.*, 127 S. Ct. 1727 at 1741, 82 USPQ2d 1385 at 1396 (2007), quoting *In re Kahn*, 441 F.3d 977, 988 (C.A.Fed.2006). In response to the KSR decision, the Patent Office has promulgated Guidelines to help practitioners and Office personnel grasp the spirit of KSR. One of the rationales illustrated by the Guideline is termed the "obvious to try" rationale.

Under the Guidelines, to reject a claim based on this rationale, Office personnel must articulate the following:

- (1) a finding that at the time of the invention, there had been a recognized problem or need in the art, which may include a design need or market pressure to solve a problem;
- (2) a finding that there had been a finite number of identified, predictable potential solutions to the recognized need or problem;
- (3) a finding that one of ordinary skill in the art could have pursued the known potential solutions with a reasonable expectation of success; and
- (4) whatever additional findings based on the *Graham* factual inquiries may be necessary, in view of the facts of the case under consideration, to explain a conclusion of obviousness.

The Guidelines, at 57532. The Examiner maintains that the Guidelines "are not so rigid that design need and market pressure must be identified so as to properly support an obviousness rejection under this rationale." Lines 8-10, page 16 of

Examiner's Answer. However, the Guidelines unambiguously states that "[i]f any of these findings cannot be made, then this rationale cannot be used to support a conclusion that the claim would have been obvious to one of ordinary skill in the art." *The Guidelines*, at 57532, emphasis added. Appellant submits that the Guidelines are in line with the ruling of KSR, where it is stated that "[w]hen there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense. In that instance the fact that a combination was obvious to try might show that it was obvious under § 103." *KSR International Co.*, at 1742.

Claim 24 recites that the bag is capable of being incubated at the mean exit temperature of the system. The Examiner maintains that the temperature in the claim is not defined as being within a certain range. Appellant respectfully disagrees. According to the instant application, samples from a chemical process may possess a high temperature such that burning remains an issue for users handling the samples. *See e.g.*, lines 6-8, page 5 of the Specification, stating that "a typical mean exit (temperature) is from about 5 C to about 100 C."

(e) Modification of Hemphill render the bag unsatisfactory for its intended purpose.

The Examiner maintains that even if the paper layer is removed from the Hemphill bag, the bag can still be used for storing hot grease. The Examiner appears to have ignored the fact that the intended purpose of the Hemphill bag is for disposal of heated cooking grease. *See e.g.*, lines 56-61, Col. 1 of the Hemphill patent, stating "the general purpose of the present invention, which will be described subsequently in greater detail, is to provide a new and improved cooking grease disposal bag which has all the advantages of the prior art disposal bags and none of the disadvantages." In describing the prior art, Hemphill set forth one of the disadvantages of the prior art is that "none of these devices disclose a cooking grease adapted for disposal of heated cooking grease...." Lines 35-36, Col. 1 of Hemphill patent. Because Hemphill's objective is to construct a bag that has "none of the disadvantages" of the prior art, it

follows that the Hemphill bag should be useful for disposing “heated cooking grease.” Thus, the intended purpose of Hemphill’s invention is to provide a bag that can hold hot grease for disposal without burning a user if touched by the user’s bare hand. If the outer paper layer is removed, the intended purpose of the Hemphill invention would be defeated because a person handling such a bag holding hot grease inside may be burned if that person is not wearing heat protection gloves.

(f) Motivation to alter the teaching of the prior art.

The Examiner further reasoned that the motivation to remove the outer layer may not and need not be the same as the applicant’s need. Appellant agrees that the motivation to modify a known device in order to arrive at the claimed device need not be the same as Appellant’s motivation; however, as explained above, the Examiner has not established that there existed a “real” motivation to use a bag that can be safely stored at the exit temperature of the process system, or to remove the outer paper layer of the Hemphill bag at the time of the present invention.

(g) Lack of disclosure regarding “burning” in the Specification.

The Examiner maintains that Appellant’s specification does not disclose burning or lack thereof by the samples stored in the bag. Burning is not recited in any of Appellant’s claims and thus need not be specifically disclosed in the specification. Moreover, given the disclosed range of mean exit temperature of from about 5 C to about 100 C, one of ordinary skill in the art would appreciate that burning is a legitimate concern, especially when the temperature is at about 100 C, which is the same as boiling water. An inventor need not teach what is already well known in the art.

CONCLUSION

Appellant respectfully requests the Honorable Board of Patent Appeals and Interferences reverse the Examiner’s rejections of Claims 23-34 under 35 U.S.C. §103(a). Appellant respectfully solicits allowance of all of the claims appealed and pending in the instant application.

Authorization to charge fees associated with submission of a brief in support of an appeal is submitted herewith. If any additional fee is deemed necessary, the Commissioner is hereby authorized to charge such fee to Deposit Account No. 12-0600.

Respectfully submitted,

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Related Proceedings Appendix

A. Attached is a copy of the previous Decision rendered by the Board of Patent Appeals and Interferences dated March 19, 2004 in U.S. Patent Application 09/806,274.

B. Also attached is a copy of the previous Order by the Board of Patent Appeals and Interferences dated June 12, 2006 in U.S. Patent Application 09/806,274.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte: WAYNE EDWARD BEIMESCG

Application No. 09/806,274



ORDER RETURNING UNDOCKETED APPEAL TO EXAMINER

This application was electronically received at the Board of Patent Appeals and Interferences on June 7, 2006 . A review of the application has revealed that the application is not ready for review and consideration. Accordingly, the application is herewith being returned to the examiner. The matters requiring attention prior to docketing are identified below.

EXAMINER'S ANSWER

On December 9, 2005, an Examiner's Answer was mailed in response to the Appeal Brief received November 4, 2005. A review of the Examiner's Answer reveals that it is not in compliance with the Manual of Patent Examining Procedure (MPEP). In the "Evidence Relied Upon" (section 8), the Examiner states: "That no evidence is relied upon by the examiner in the rejection of the claims on appeal." However, the MPEP §1207.02 states that the "Evidence

Relied Upon" section must include:

(8) Evidence Relied Upon

A listing of evidence relied on (e.g., patents, publications, admitted prior art), and in the case of non-patent references, the relevant page or pages.

Correction of the record is required.

CONCLUSION

Accordingly, it is

ORDERED that the application is returned to the examiner to:

- 1) vacate the Examiner's Answer mailed December 9, 2005;
- 2) issue a revised Examiner's Answer to include all required headings as set forth under 37 CFR § 41.37, and
- 3) for such further action as may be appropriate.

BOARD OF PATENT APPEALS
AND INTERFERENCES



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Application No. 09/806,274

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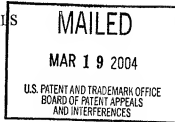
The opinion in support of the decision being entered today was *not* written for publication and is *not* binding precedent of the Board.

Paper No. 22

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte WAYNE EDWARD BEIMESCH



Appeal No. 2004-0829
Application 09/806,274

ON BRIEF

Before GARRIS, WARREN and TIMM, *Administrative Patent Judges*.

WARREN, *Administrative Patent Judge*.

Decision on Appeal

This is an appeal under 35 U.S.C. § 134 from the decision of the examiner finally rejecting claims 1 through 10, all of the claims in the application. Claims 1 and 8 are illustrative of the claims on appeal:

1. A method for measuring volatile organic compounds of a material produced in a process system having emissions, said method comprising:

- (a) disposing an amount of said material in an enclosed bag having a sealable opening such that there is headspace above said material in said enclosed bag;
- (b) storing said enclosed bag containing said solid material at the mean exit temperature of said emissions of said system such that equilibrium between said material and said headspace is reached; and
- (c) introducing samples from said headspace into a flame ionization detector which thereby measures said volatile organic compounds of said material.

8. A kit for measuring the volatile organic compounds of a material produced in a process system having emissions, said kit comprising:

(a) an enclosed bag having a sealable opening to allow an amount of said material to be placed in said enclosed bag such that there is headspace above said material; and

(b) instructions for analyzing samples from said headspace in said enclosed bag, thereby providing said volatile organic compounds of said material.

Appealed claim 1 represents claims drawn to a method for measuring volatile organic compounds (VOCs) of a material produced in a process system having emissions comprising at least the steps of sealing an amount of the material in a bag such that a "headspace" remains above the enclosed sample; storing the enclosed sample to establish emission equilibrium between the material and the "headspace" at the mean exit temperature of emissions from the process system; and measuring the VOCs in the "headspace" with a flame ionization detector (FID). Appealed claim 8 represents claims drawn to a kit comprising at least a sealable bag and instructions for analyzing VOCs present in a "headspace" over material from a process system enclosed in the bag.

The references relied on by the examiner are:

Hemphill	5,140,845	Aug. 25, 1992
Robbins	4,930,906	Jun. 5, 1990

The examiner has rejected appealed claims 1 through 7 under 35 U.S.C. § 103(a) as being unpatentable over Robbins, and appealed claims 8 through 10 under 35 U.S.C. § 103(a) as being unpatentable over Hemphill.

Appellant states that "Claims 1-7 stand or fall together and Claims 8-10 stand or fall together" (brief, page 2). Thus, we decide this appeal based on appealed claims 1 and 8. 37 CFR § 1.192(c)(7) (2003).

We reverse.

Rather than reiterate the respective positions advanced by the examiner and appellant, we refer to the examiner's answer and to appellant's brief and reply brief for a complete exposition thereof.

Opinion

In order to review the examiner's application of prior art to appealed claims 1 and 8, we must first interpret the language thereof by giving the claim terms their broadest reasonable interpretation in light of the written description in the specification as it would be interpreted by one of ordinary skill in this art, *see, e.g., In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027 (Fed. Cir. 1997); *In re Zletz*, 893 F.2d 319, 321-22, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989), without reading into these claims any limitation or particular embodiment which is disclosed in the specification. *See Zletz, supra; In re Priest*, 582 F.2d 33, 37, 199 USPQ 11, 15 (CCPA 1978).

The claim language of appealed claim 1 at issue here is the preambular phrase "[a] method for measuring volatile organic compounds of a material produced in a process system having emissions," which method comprises at least specified steps (a) through (c). We determine that this phrase must be given weight as a claim limitation which characterizes the claimed method in order to give meaning to the claim and properly define the invention, because in the body of the claim, the language "said material" in step (a), "mean exit temperature of said emissions of said system" in step (b) and "measures said volatile organic compounds of said material" in step (c) refers back to the preambular language. *See generally, In re Stencel*, 828 F.2d 751, 754-55, 4 USPQ2d 1071, 1073 (Fed. Cir. 1987).

Appellant submits that this claim language encompasses only "closed" process systems that have "VOC emissions" and not "systems open to the atmosphere," pointing out that the "process systems" at page 4, lines 26-28, of the written description in the specification, "are "closed systems, and as such have dynamic air flow properties," and that the claimed methods encompassed by claim 1 thus specify the generation and measurement of VOCs produced in a closed process system having emissions (brief, pages 2-3; reply brief, pages 2-3).

We cannot subscribe to appellant's position. We determine that the broadest reasonable interpretation of the plain language of the claim phrase taken in light of the claim language as a

¹ We address the term "a material" in the preamble of claim 1, the term "said material" in steps (a) and (c), and the term "said solid material" in step (b) with respect to compliance with 35 U.S.C. § 112, second paragraph, under *Other Issues* below.

whole and the written description in the specification, requires that the claimed method measures the VOCs of *any* "material," and thus can include liquid, paste or solid "material," as set forth in the specification (page 3, lines 3-4), which is "produced in" *any* "process system," open or closed, "having emissions," that can be VOC emissions, wherein the "material" produced in the process system can contain VOCs. Thus, "a material" can include any intermediate or final "product" that is produced by "a process system having emissions," including materials that are VOCs *per se*. However, while the "process system" can be open or closed, it must be one in which "the mean exit temperature of said emissions of said system" can be determined in order to establish the temperature at which the "enclosed bag containing said material" is stored so that "equilibrium between said material and said headspace is reached" as specified in appealed claim 1.

Indeed, we find *no* requirement in the claim language as a whole or in the written description in the specification, that "a process system" must be a "closed system" as appellant contends. We determine that one of ordinary skill in this art would recognize that the "[e]xemplary process systems" at page 4, lines 26-28, of the written description in the specification, can be "open systems," that is, systems open to the atmosphere, wherein VOCs emitted by such systems can be monitored with respect to amount and temperature as they exit the system to the atmosphere, and wherein the amount of VOC "emissions" from the "process system" has no relationship to the amount of VOCs in the intermediate or final "product" even at the "mean exit temperature of said emissions of said system." We further find no explanation in the written description in the specification why one of ordinary skill in this art would consider "storage tanks," which can be vented to the atmosphere even when the "product" therein contains VOCs, to be an example of "a process system." We note here that we find no support for appellant's position in specification Example I wherein samples of detergent particles are "taken at the *inlet* of the dryer" (specification, page 3; emphasis supplied) and thus, the measurement of the VOCs in this *starting material* does not constitute "measuring volatile organic compounds of *a material produced* in a process system having emissions" as required by appealed claim 1. In any event, limitations from an embodiment cannot be read into a claim unless there is basis in the claim language as a whole or in the written description in the specification to do so.

Considering now the ground of rejection of appealed claim 1 under § 103(a) over Robbins, it is well settled that in order to establish a *prima facie* case of obviousness, the examiner must show that some objective teaching, suggestion or motivation in the applied prior art taken as a whole and/or knowledge generally available to one of ordinary skill in this art would have led that person to the claimed invention as a whole, including each and every limitation of the claim arrange as required by the claim, without recourse to the teachings in appellant's disclosure. See generally, *In re Rouffet*, 149 F.3d 1350, 1358, 47 USPQ2d 1453, 1458 (Fed. Cir. 1998); *Pro-Mold and Tool Co. v. Great Lakes Plastics Inc.*, 75 F.3d 1568, 1573, 37 USPQ2d 1626, 1629-30 (Fed. Cir. 1996); *In re Fine*, 837 F.2d 1071, 1074-76, 5 USPQ2d 1596, 1598-1600 (Fed. Cir. 1988); *In re Dow Chem. Co.*, 837 F.2d 469, 473, 5 USPQ2d 1529, 1531-32 (Fed. Cir. 1988).

We agree with appellant that the examiner has not logically established a *prima facie* case of obviousness of the claimed method encompassed by appealed claim 1 as we have interpreted this claim above. We find that Robbins acknowledges that the so-called "[h]eadspace sampling techniques" for testing "a consistent volume or weight of ground water or soil mixed with water in a container, sealing the container, agitating, allowing time to permit volatile constituents to be released into the air headspace of the container, and then using a detector to measure the volatile constituent in the headspace" as applied to leakage of material around "storage tanks" was known (col. 1, lines 48-58), and discloses improvements on that process with respect to leakage from "storage tanks," including the use of FID to measure the VOCs in the water and/or soil and water material (e.g., cols. 1-2). However, we determine that the examiner has not provided scientific argument or objective evidence establishing that one of ordinary skill in this art would have adapted the "headspace" method for measuring VOCs in ground water and water and soil samples from areas around "storage tanks" as taught by Robbins, to a "material produced by a process system having [VOC] emissions" using "the mean exit temperature of said emissions of said system" to establish "equilibrium between said material and said headspace" as required by appealed claim 1.

While Robbins recognizes the effect of temperature with respect to "an equilibrium concentration" in the "headspace" at col. 5, lines 1-6, as the examiner points out (answer,

page 3), the examiner has not established why one of ordinary skill in this art would have found in this disclosure the objective teaching, suggestion or motivation to use "the mean exit temperature of said emissions of said system" used to prepare "a material" to obtain "headspace" equilibrium concentration of the enclosed "material." Indeed, one of ordinary skill in this art would have reasonably inferred from Robbins that the equilibrium temperature can be the ambient temperature of the area around the "storage tanks" where the ground water or soil mixed with water was taken, or lab room temperature,² and not that "the mean exit temperature of said emissions of said system" used to produce "a material" is a result effective variable to determine the VOCs content of that product "material." See *In re Antonie*, 559 F.2d 618, 619-20, 195 USPQ 6, 8-9 (CCPA 1977); see also *Dow Chem.*, *supra*.

Accordingly, in the absence of a *prima facie* case of obviousness, we reverse the ground of rejection.

The claim language of appealed claim 8 plainly specifies a kit comprising at least "an enclosed bag having a sealable opening to allow an amount of said material to be placed . . . [therein] such that there is headspace above said material," and "instructions for analyzing samples from said headspace in said enclosed bag thereby providing said volatile organic compounds of said material" for use in the method "for measuring volatile organic compounds of a material produced in a process system having emissions" as set forth in the preamble. Contrary to the examiner's interpretation (answer, page 5), we are of the opinion that the preambular language must be given weight as a claim limitation which characterizes the claimed kit with respect to the "instructions" contained therein as set forth in the body of the claim. See *generally, Stencel, supra*.

In considering the patentability of appealed claim 8 with respect to the Hemphill under § 103(a), the printed matter "instructions" must be taken into account to determine "whether there exists any new and unobvious functional relationship between the printed matter and the

² It is well settled that a reference stands for all of the specific teachings thereof as well as the inferences one of ordinary skill in this art would have reasonably been expected to draw therefrom, see *In re Fritch*, 972 F.2d 1260, 1264-65, 23 USPQ2d 1780, 1782-83 (Fed. Cir. 1992); *In re Preda*, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968), presuming skill on the part of this person. *In re Sovish*, 769 F.2d 738, 743, 226 USPQ 771, 774 (Fed. Cir. 1985).

substrate.” *In re Gulack*, 703 F.2d 1381, 1385-86, 217 USPQ 401, 404 (Fed. Cir. 1983).
“Where the printed matter is not functionally related to the substrate, the printed matter will not distinguish the invention from the prior art in terms of patentability.” *Id.*, 703 F.2d at 1385, 217 USPQ at 404. “What is required is the existence of *differences* between the appealed claims and the prior art sufficient to establish patentability.” *Id.*, 703 F.2d at 1385, 217 USPQ at 404.
“As part of its burden to establish a *prima facie* case of obviousness, *see In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992), the burden of establishing the absence of a novel, nonobvious functional relationship rests with the PTO.” *In re Lowry*, 32 F.3d 1579, 32 USPQ2d 1031 (Fed. Cir. 1994) (“The PTO did not establish that the ADOs, within the context of the entire claims, lack a new and nonobvious functional relationship with the memory.”).

The examiner does not give the preamble language “any patentable weight,” interpreting the method specified therein to be an “intended use, that being for holding VOC-containing material from a process system” (answer, page 5). Thus, the examiner finds that appealed claim 8 is “anticipated by the device of Hemphill where a resealable bag (reference item 10) has instructions (references items 18 and 20),” and holds that one of ordinary skill in the art would have been “motivated to ensure that appropriate instructions related to the intended use of the bag would be included as a matter of design choice” (*id.*, pages 5-6). Appellant points out that “Hemphill teaches a cooking grease disposal bag” and thus, “does not teach or suggest a kit for measuring volatile organic compounds produced in a process system having emissions as” claimed, thus arguing that a *prima facie* case of obviousness has not been established (brief, page 4, original emphasis deleted; *see also* reply brief, page 4). The examiner responds that it is not disputed that the “bag of Hemphill has the inherent capability to store VOC-containing material,” and that “Hemphill need not suggest or otherwise indicate that their bag can be used for storing VOC-containing material from a process system” (answer, page 9).

We find that Hemphill teaches a bag which when folded at one or more of lines 14, 15 or 19 and temporarily or permanently sealed according to the instructions printed at 18 and 20, and filled with “grease” accordingly, will provide a “headspace” above the “grease” material contained therein as shown in specifications Figs. 1 through 4 (*see, e.g.*, cols. 3-4), and thus

agree with the examiner's findings with respect to this reference. However, what is missing from the examiner's analysis is consideration of whether there is no new and unobvious functional relationship between the printed matter "instructions" and the sealable bag of Hemphill which contains no instructions thereon, and indeed, there is no disclosure in this reference, with respect to "instructions" concerning the use of the bag in the specified "process." Accordingly, in the absence of such analysis we find that the examiner has not established a *prima facie* case of obviousness, and therefore, we reverse this ground of rejection.

The examiner's decision is reversed .

Other Issues

We decline to exercise our authority under 37 CFR § 1.196(b) (2003) and enter on the record new grounds of rejection of the appealed claims with respect to following matters, and instead suggest that the examiner consider the following upon any further prosecution of the appealed claims subsequent to the termination of this appeal, supplying the record with any additional prior art as necessary in these respects.


The term "a material" in the preamble of appealed claim 1 and the term "said material" in the first specified step of the process method claimed therein which refers back to the former term, is not limited to "said solid material" set forth in the second specified step of the claimed process which must refer back to "said material." Indeed, we find no claim language or disclosure in the written description in appellant's specification as it would be interpreted by one of ordinary skill in this art, *see Morris, supra; Zletz, supra*, which limits the term "a material" in the preamble to a "solid material," and indeed, appellant states in the specification that "[a]s used herein, the 'material' for which the VOCs are required can be a liquid, paste or solid" (page 3, lines 3-4). Thus, it would appear that, *prima facie*, appealed claims 1 through 8 in fact fail to set out and circumscribe a particular area with a reasonable degree of precision and particularity as required by this statutory provision, in view of the use of the terms "a material" and "said solid material" in appealed claim 1 which are of different scope. *In re Moore*, 439 F.2d 1232, 1235, 169 USPQ 236, 238 (CCPA 1971).

With respect to appealed claims 1 and 8, it reasonably appears from the prior art acknowledged in col. 1 of Robbins that there is other prior art relevant to "headspace sampling techniques."

Finally, with respect to appealed claim 8, the examiner should consider the disclosure in Robbins of instructions to place a material that can contain VOCs in a sealable bag in a manner to leave a "headspace" for sampling purposes (cols. 1-6), either alone or with respect to Hemphill and/or other prior art.

REVERSED

BRADLEY R. GARRIS
Administrative Patent Judge


CHARLES F. WARREN
Administrative Patent Judge


CATHERINE TIMM
Administrative Patent Judge

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Appeal No. 2004-0829
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